

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 10-312711

(43)Date of publication of application : 24.11.1998

(51)Int.Cl.

H01B 1/12
G03G 5/06
H01L 29/786
H05B 33/14
H05B 33/22
// C09K 11/06
C09K 11/06
C09K 19/02
G02F 1/13
G02F 1/13

(21)Application number : 10-076820

(71)Applicant : DAINIPPON PRINTING CO LTD

(22)Date of filing : 09.03.1998

(72)Inventor : HANNA JUNICHI
KOGO KYOKO
KAFUKU MASAOKI

(30)Priority

Priority number : 09 70870 Priority date : 10.03.1997 Priority country : JP

(54) LIQUID CRYSTALLINE ELECTRON CHARGE TRANSPORTING MATERIAL

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an electron charge transporting material concurrently having the advantage of an amorphous material with structural flexibility and homogeneity over a large area and the advantage of a crystalline material with a molecular orientation property and excellent in a high-quality charge transportation property and a thin layer forming property by applying a smectic liquid crystalline property to the liquid crystalline charge transporting material, and setting the electron mobility to a specific value or above.

SOLUTION: This liquid crystalline charge transporting material has a smectic liquid crystalline property and electron mobility or a positive hole moving speed of 1×10^{-5} cm²/v.s or above. Since the liquid crystalline molecule has self-orientation property due to its molecular structure, the charge transportation at its hopping site differs from that of a molecular dispersion material, the spatial and energetic dispersion of the hopping site is suppressed, and the band-like transportation characteristic obtained in the molecular crystal is realized. Large mobility can be realized, and its electric field dependency is not observed.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office